What Is Claimed Is:

1. A system comprising:

a process chamber having a feed inlet, a low pressure outlet and a high pressure outlet;

a feed pump;

a common shaft having rotatably coupled thereto a booster pump fluidically coupled between said feed pump and said feed inlet and an energy recovery turbine fluidically coupled to said high pressure outlet through a first channel, said energy recovery turbine drives said booster pump; and

a second channel fluidically coupling said process chamber and said high pressure outlet.

2. A system as recited in claim 1 wherein said process chamber has a first reverse osmosis membrane therein.

3. A system as recited in claim 1 wherein said low pressure outlet comprises a permeate outlet.

4. A system as recited in claim 1 wherein said high pressure outlet comprises a concentrate outlet.

5. A system as recited in claim 1 further comprising a first control valve coupled between said booster pump and said feed pump.

6. A system as recited in claim 1 further comprising a second control valve coupled within said

second channel and directing concentrate between said feed pump and said booster pump.

7. A system as recited in claim 1 further comprising a jet pump fluidically coupled to the second channel to couple the high pressure outlet to said feed pump outlet.

8. A system as recited in claim 7 wherein said jet pump is coupled between said feed pump and said booster pump.

9. A system as recited in claim 8 wherein said jet pump is coupled between said booster pump and said process chamber.

10. A reverse osmosis system comprising:

a reverse osmosis process chamber having a first feed inlet, a first permeate outlet and a first concentrate outlet;

a feed pump;

a common shaft having rotatably coupled thereto a booster pump fluidically coupled between said feed pump and said first feed inlet and an energy recovery turbine fluidically coupled to said first concentrate outlet through a first channel, said energy recovery turbine driving said booster pump; and

a second channel coupled to said first concentrate outlet for directing a portion of said concentrate between said booster pump and said feed inlet.

11. A system as recited in claim 10 wherein said second channel directs concentrate between said feed pump and said energy recovery turbine.

12. A system as recited in claim 10 wherein said second channel directs said concentrate between said energy recovery turbine and said process chamber.

13. A system as recited in claim 10 further comprising a jet pump coupling said second channel to said feed pump outlet.

14. A system as recited in claim 13 wherein said jet pump is coupled between said feed pump and said booster pump.

15. A system as recited in claim 13 wherein said jet pump is coupled between said booster pump and said process chamber.

16. A method of operating a process having a feed pump directing fluid to a process chamber having a high pressure outlet and a low pressure outlet comprising the steps of:

boosting a pressure of fluid output from a feed pump prior to entering to a first process chamber using from a first portion of a high pressure fluid from a high pressure outlet of a first process chamber;

recirculating a second portion of the high pressure fluid; and

fluidically coupling the second portion of the high pressure fluid between the feed pump and the process chamber.

17. A method as recited in claim 16 further comprising the steps of providing first energy recovery turbine coupled to a booster pump to preform the step of boosting.

18. A method as recited in claim 16 further comprising the steps of providing a jet pump to preform the step of fluidically coupling.

19. A method as recited in claim 16 further comprising the steps of fluidically coupling a pumped fluid input of the jet pump to the second portion of high pressure fluid and fluidically coupling a driving fluid input to fluid output from the feed pump.

20. A method as recited in claim 16 further comprising the steps of fluidically coupling a pumped fluid input of the jet pump to fluid output from the feed pump and fluidically coupling a driving fluid input to the second portion of high pressure fluid.